



The Mini Page

Betty Debnam, Founding Editor and Editor at Large



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A Plague and a Partner

Have you ever been around a pet rat, perhaps in your classroom? Maybe you have seen rats in an alley or field near your home.

Over the centuries, rats have caused a lot of trouble for people. But they have also helped us learn more about ourselves. The Mini Page looks at this sometimes creepy, sometimes helpful animal.

Rodent family

A rat is a **rodent**. Rodents include animals such as mice, guinea pigs, hamsters, squirrels, chipmunks and beavers. Rodents make up the largest group of mammals on Earth. There are about 2,300

species, or kinds, of rodents.

Rodents all have long, sharp teeth called **incisors**.

Many other animals, including humans, have incisors too. But in rodents, the incisors are especially long. They keep growing throughout most of a rodent's life.

Rodents also have powerful jaw muscles. Rodent jaws and incisors are specially designed to gnaw through hard material. For example, a beaver can chew through trees. Rats can chew through lead and aluminum. Rats also dig with their incisors.



Rat Tales



The Norway rat is the most common rat in the United States. It is the kind you will most likely see in cities or as pets.

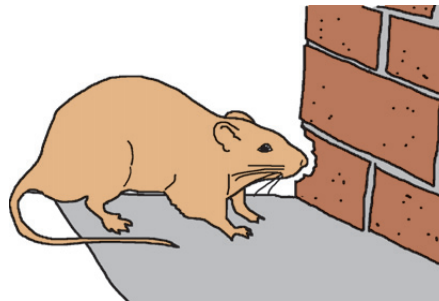
There are about as many rats in the United States as there are humans. However, many species of rats live in the wild, away from humans. They live in fields, forests and marshes. Some rats live underground their entire lives.

photo courtesy National Institute of Health

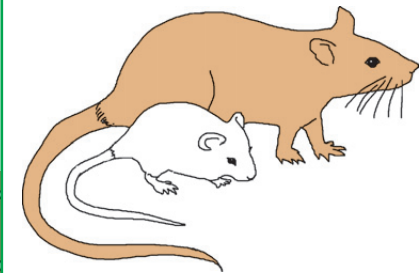
Rat body

A Norway rat's incisors grow about 4 to 5 inches a year. They need to keep chewing on things to wear down their teeth. If they didn't, their teeth would grow through their skulls. Rats will gnaw on whatever they can sink their teeth into, including cement or brick.

Norway and roof rats have long, skinny tails covered with scales. They have long snouts and a super strong sense of smell. They have furry bodies with sharp claws on their paws.



Rat or mouse?



Experts say the main difference between rats and mice is their size. The bodies of rats

people commonly see are usually at least 5 inches long (not counting their tails). The common Norway rat's body can grow up to 18 inches long.

The common mouse is about 2 to 3 inches long (without its tail).

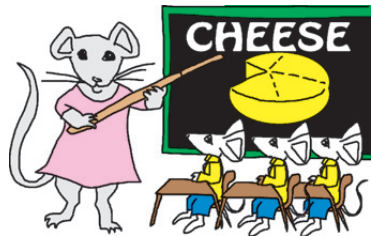
Rats and mice are different species, though. Mouse parents won't give birth to babies so big that they are called rats. Rats won't give birth to little mice.

Rats Are Everywhere

Rat-like or human-like behavior?

Some rats, such as Norway rats, share many **behavior traits**, or characteristics, with humans. Both:

- are social animals; they like to hang out with others of their kind.
- are adaptable. Rats and humans can figure out how to live in all sorts of conditions. This has helped both species **thrive**, or do well, all over the world.



- can learn new things.
- can teach what they have learned to their young.

Rat world

Rats have spread all over the world, often by hitching rides with humans. Rats spread from Europe and Asia to the Americas by stowing away on ships.

There are hundreds of species of rats. The two species most familiar to people are the roof rat and the Norway rat. They can be found everywhere there are humans.



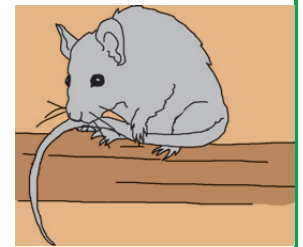
photo by Keith Weller, courtesy USDA

Scientists test the memory of rats taught to swim to an underwater platform in a pool.

The white rats you see as pets or lab animals are probably Norway rats. They have white fur and pink eyes because they are albino (al-BYE-no). Albino animals don't have the coloring normal to their species. Scientists breed certain strains of rats to work within laboratory settings.

Roof rat

The roof rat is also known as the house rat, ship rat or black rat. It can be white, black or gray.



Experts believe it may have originally come from India. It is a strong climber and can often be found in trees or on roofs. It mainly eats plant matter such as fruits, vegetables and grains. It destroys many food crops.

Norway rat

The Norway rat is also known as the brown rat, wharf rat, sewer rat or water rat.



It can be white, brown or black.

The Norway rat probably came from China. It got its name because people thought it came to Norway from Asia and then spread through Europe.

Norway rats thrive in cities, living in garbage dumps, sewers and buildings. They are mostly **nocturnal**, which means they are most active at night.

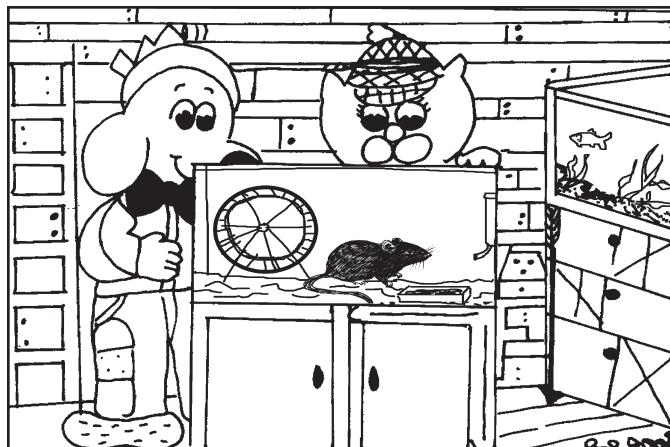
Norway rats are great swimmers. They eat almost any type of food.

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Mini Spy ...



Mini Spy and Basset Brown are watching his pet rat. See if you can find:



- lips
- ladder
- letter F
- kite • net
- boomerang
- pencil
- orange slice
- arrow
- peanut
- bandage
- dice



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RATS

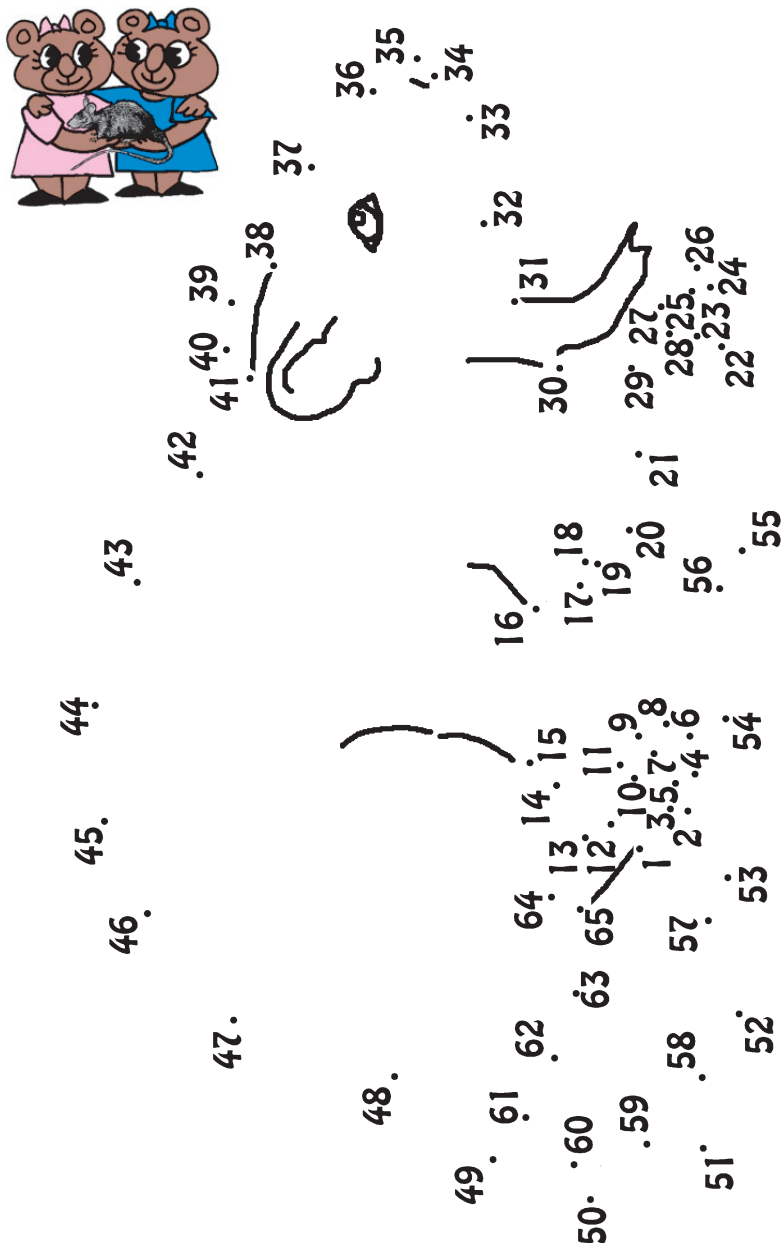
TRY 'N
FIND

Words that remind us of rats are hidden in the block below. Some words are hidden backward or diagonally. See if you can find: TAIL, INCISORS, NORWAY, ROOF, PLAGUE, DISEASE, EAT, PET, RODENT, GNAW, JAW, CHEW, DIG, SNOUT, PAW, BEHAVIOR, ADAPTABLE, SHIP, LAB, ALBINO, FOOD, NOCTURNAL, MAZE, COLONY, BURROW.



G S O N I B L A Y N O L O C N
T N H C W O R R U B D I G P O
A J A I H E P F O O R D M L C
I K A W P E A A D O O F A A T
L L M W K L W T W P E T Z G U
L S R O S I C N I L A B E U R
T N E D O R D I S E A S E E N
E L B A T P A D A T U O N S A
Y A W R O N R O I V A H E B L

Go dot to dot and color this adaptable mammal.



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Rookie Cookie's Recipe Strawberry Gelatin Treat

You'll need:

- 1 (6-ounce) package sugar-free gelatin
- 2 cups boiling water
- 1 cup fat-free strawberry yogurt
- 2 cups sliced strawberries
- 1 small banana, sliced



What to do:

1. Dissolve gelatin powder in 2 cups boiling water. (Do not add additional cold water.)
2. Stir in strawberry yogurt until well-mixed.
3. Add fruit to mixture.
4. Chill for several hours until set.

**You will need an adult's help with this recipe.*

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Meet Cathy Fink and Marcy Marxer



Cathy Fink and Marcy Marxer

Cathy Fink and Marcy Marxer have made several CDs of music for families. They have won two Grammy awards.

They play many instruments, including banjo, electric guitar, mandolin, spoons, pennywhistle, steel drum and ukulele. They sing many styles of music, too, including yodeling and chicken clucking in harmony!

Cathy and Marcy direct three ukulele orchestras, one for a Brownie troop, one for senior citizens and one for advanced players. The two women live in Maryland.

Cathy grew up in Baltimore and learned to play the guitar when she was 12. She began playing music for kids at a school on a Navajo Indian reservation.

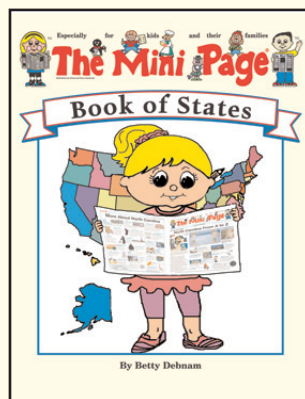
Marcy grew up in Michigan. She loved playing the guitar while her grandmother played along on the piano. She went to a school for dramatic arts, as well as to the Ringling Brothers Clown School.

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NEW!

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MIGHTY
FUNNY'S

Mini Jokes

All the following jokes have something in common. Can you guess the common theme or category?



Rocky: What sound is made when a rat shoots a machine gun?

Rick: Rat-a-tat-tat!

Renee: Can you spell a rat trap with three letters?

Rachel: C-A-T!

Roxanne: Why can't you catch a rat when it runs out from under the stove?

Randy: Because it's out of range!



Rats Among Humans

Hurting humans

Rats have caused people a lot of trouble. Sometimes rats attack, and even kill, humans.

They carry more than 40 diseases harmful to humans. Some of these diseases include bubonic plague, typhus and rat-bite fever.



Experts believe diseases from rats have killed more people in the last 1,000 years than all the wars combined. During

the Middle Ages*, the bubonic plague, or Black Death, may have killed about half the people in the world.

*“The Middle Ages” is a term referring to life in Europe from about 500 to 1500.

Plague is not such a problem today, partly because people are controlling rat populations better, and partly because we can now cure plague.

Destructive animals

Rats destroy about 20 percent of all the agricultural products in the world every year. What they don't eat, they may **contaminate**, or make unsafe, with their droppings.

Experts believe many unexplained house fires have been caused by rats chewing on the wiring. Rats also tunnel under buildings, weakening the structure.

Experts estimate that rats cause about \$200 million in damage in the United States each year.

Rats eat other animals, such as birds and baby sea turtles. They may play a big part in causing some animals to become endangered.



Scientists study the movement ability of middle-aged rats as they walk on a machine.

Helping humans

Scientists have learned a lot about humans by studying rats. Partly because rats adapt and learn so quickly, they are great subjects for experiments. They can learn to go through mazes or hit certain levers to get food. They can teach their young how to perform the same tasks.

Also, rats are small and reproduce quickly. That makes them good animals to study as well.

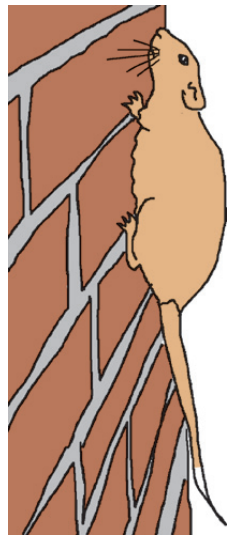
Rats can stay healthy even if they breed within their families, which is unusual. This allows scientists to easily breed strains that have certain characteristics.

Next week, The Mini Page is about Pompeii, a city in Italy preserved by a volcano.

Athletic rat facts

Rats:

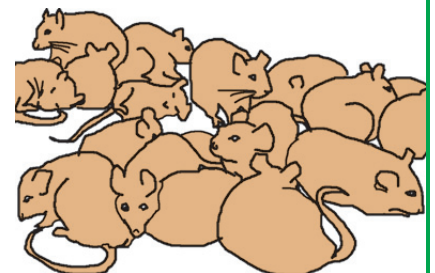
- have treaded water for three days.
- have survived after being flushed down the toilet.
- can climb walls, trees and telephone poles. They can walk across telephone lines.
- can leap up 3 feet and across 4 feet.
- can get through openings the size of a quarter.
- can fall 50 feet without getting hurt.



A rat's life

Rats live for a few months to a year in the wild. They are in danger from:

- humans and animals such as dogs and eagles;
- diseases;
- lack of food.



Rats often form colonies. When a pair sets up their nest, their young and grandbabies may stay in large groups. There can be hundreds of rats in a colony.

Norway rats build nests with complicated burrow systems. They have special rooms for food storage, for living and for the “bathroom.”

The Mini Page thanks Phil Myers, curator of mammals, University of Michigan, for help with this issue.

Site to see: www.biokids.umich.edu

Look through your newspaper for stories about animals and humans.

The Mini Page Staff

Betty Debnam - Founding Editor and Editor at Large

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